

determining an arc circumscribing a tip of each projected portion of the object to be inspected;

identifying overlapping regions formed by an overlapping portion between an inner portion of a region defined by the arc and a cut-away portion of the object and determining an area of each of the overlapping regions;

comparing the area of each of the overlapping regions with the areas of the other overlapping regions to determine an area difference for each of the overlapping regions; and

determining that no defect exists on the object when the area difference of each of the overlapping regions is within a range of predetermined criteria, and determining that a defect exists on the object when the area difference is outside the range of predetermined criteria.

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2. (Amended - Clean Copy) A system for detecting a defect on an object having a plurality of like projected portions formed along an arc with a predetermined pitch, the system comprising:

an imaging system that images the object to be inspected;

an image capture system that stores the image as digital data;

a region area detection system that analyzes the digital data stored by the image capture system to determine an arc circumscribing a tip of each of the plurality of projected portions of the object, identifies overlapping regions formed between an inner portion of a region defined by the arc and a cut-away portion of the object, and determines an area of

each of the overlapping regions;

a region area comparison system that compares the area of each of the overlapping regions determined by the region area detection system with the areas of each of the other overlapping regions and determines an area difference; and

a defect determination system that determines that no defect exists on the object when the area difference of each of the overlapping regions determined by the region area comparison system is within a range of predetermined criteria, and determines that a defect exists on the object when the area difference is outside the range of predetermined criteria.

3. (Amended - Clean Copy) A method for detecting a defect on an object having a plurality of like projected portions formed along an arc with a predetermined pitch, the method comprising:

determining an arc circumscribing a tip of each projected portion of the object to be inspected;

identifying overlapping regions formed by an overlapping portion between an outer portion of a region defined by the arc and a cut-away portion of the object and determining an area of each of the overlapping regions;

comparing the area of each of the overlapping regions with the areas of the other overlapping regions to determine an area difference for each of the overlapping regions; and

determining that no defect exists on the object when the area difference of each of the

overlapping regions is within a range of predetermined criteria, and determining that a defect exists on the object when the area difference is outside the range of predetermined criteria.

4. (Amended - Clean Copy) A system for detecting a defect on an object having a plurality of like projected portions formed along an arc with a predetermined pitch, the system comprising:

an imaging system that images the object to be inspected;

an image capture system that stores the image as digital data;

A.1  
a region area detection system that analyzes the digital data stored by the image capture system to determine an arc circumscribing a tip of each of the plurality of projected portions of the object, identifies overlapping regions formed between an outer portion of a region defined by the arc and a cut-away portion of the object, and determines an area of each of the overlapping regions;

a region area comparison system that compares the area of each of the overlapping regions determined by the region area detection system with the areas of each of the other overlapping regions and determines an area difference; and

a defect determination system that determines that no defect exists on the object when the area difference of each of the overlapping regions determined by the region area comparison system is within a range of predetermined criteria, and determines that a defect exists on the object when the area difference is outside the range of predetermined criteria.

5. (Twice Amended - Clean Copy) The system for detecting a defect on an object according to claim 2, further comprising a lighting box, on which the inspected object is placed, the imaging system being positioned opposite to an illuminating surface of the lighting box.

6. (Amended - Clean Copy) The system for detecting a defect on an object according to claim 5, wherein the imaging system comprises a band pass filter that filters out light having wavelengths other than the wavelengths of light used by the lighting box to illuminate the object.

7. (Amended - Clean Copy) The system for detecting a defect on an object according to claim 4, further comprising a lighting box, on which the inspected object is placed, the imaging system being positioned opposite to an illuminating surface of the lighting box.

8. (Amended - Clean Copy) The system for detecting a defect on an object according to claim 7, wherein the imaging system comprises a band pass filter that filters out light having wavelengths other than the wavelengths of light used by the lighting box to illuminate the object.

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REMARKS

By the above amendment, claims 1-8 have been amended to correct minor informalities in the claims to clarify the recitation of the claims and to eliminate means-plus function terminology from the claims. The amendments to the claims made in this